QUATERNARY STRATIGRAPHY OF A BURIED VALLEY IN THE PICKERINGTON AREA (FAIRFIELD COUNTY, VIOLET TOWNSHIP)

A SENIOR THESIS

BY
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Submitted as partial fulfillment of the requirements
for the degree of Bachelor of Science in Geological Sciences
at The Ohio State University, Columbus, Ohio
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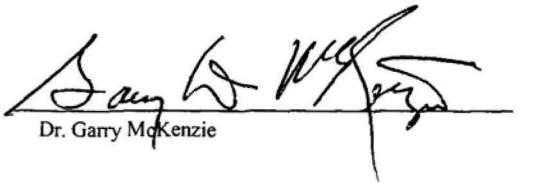
APPROVED BY



Dr. Garry McKenzie

ACKNOWLEDGEMENTS

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INTRODUCTION

Understanding the surficial geology of an area is useful for engineering projects and resource extraction. In this instance, the city of Pickerington in Fairfield County, as well as the county itself, needs to expand their water well fields. To find the best potential sites for a new well field, city officials hired BBC&M Engineering, Inc., in conjunction with Beling Consultants, to conduct a geologic study of the area. A series of cross sections (Figs. 1-5) was made from available water well log data.

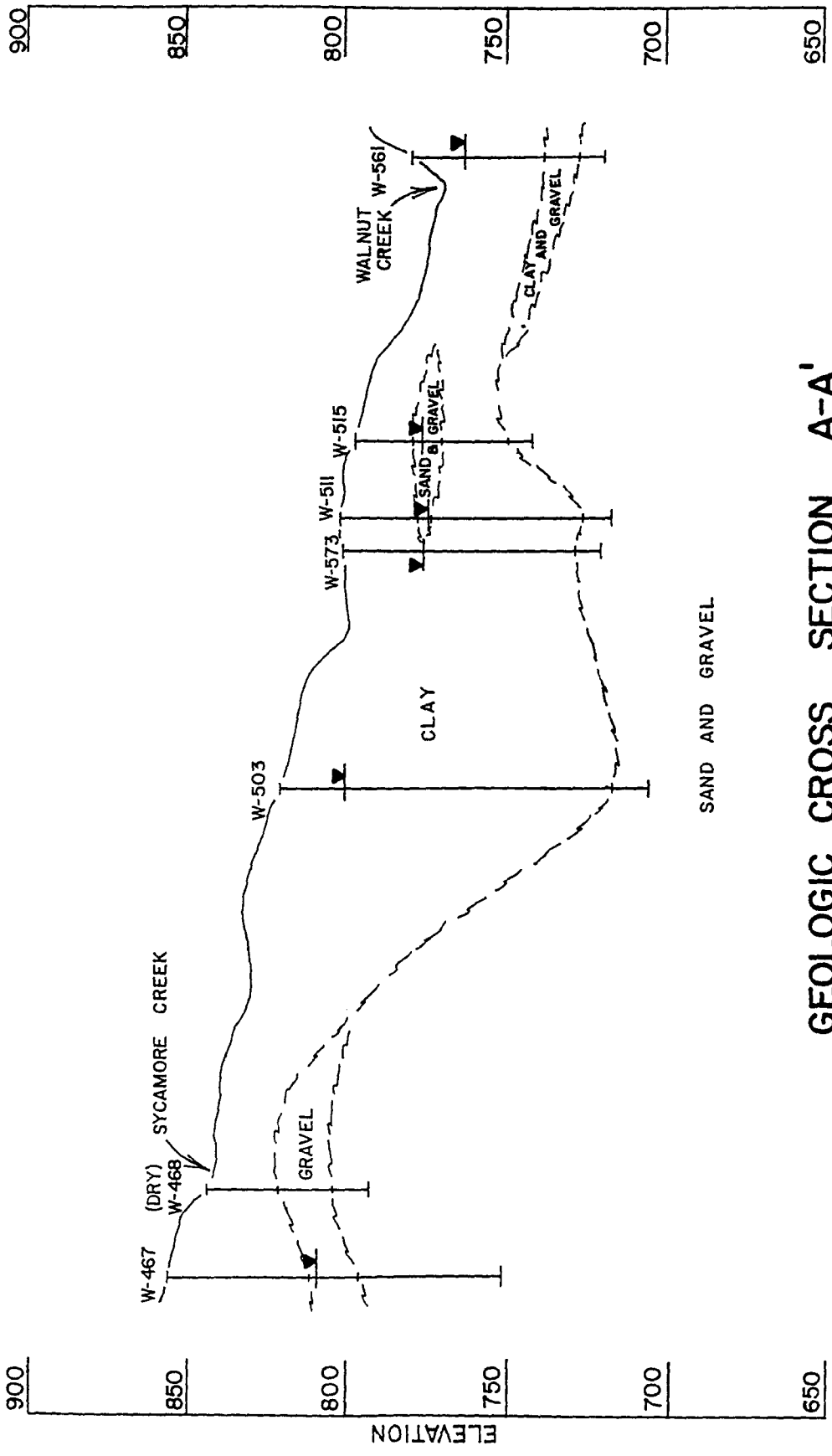
A cross section across a pair of the previous cross sections could be useful. It would determine how well, if at all, the cross sections correlate lengthwise along the valley. It would also provide a different perspective on the area's geology and aid in determining if this section should be an option for a new well field site. A cross section line was selected along Lockville-Pleasantville Road between Pickerington Road and Carroll-Northern Road (Fig. 6).

QUATERNARY HISTORY

The Teays System

The Teays drainage system is the earliest erosion cycle with adequate data. Teays is often used to refer to stream erosion during the time the Teays River existed, as well as the erosion from the river itself. The Teays River began in the Piedmont Plateau of Virginia and North Carolina. The river ran towards the northwest, followed the Ohio River valley to Wheelersburg, Ohio (Fig. 7), then continued north before cutting to the west towards the St. Mary's Reservoir (Mercer County), then crossed the Ohio-Indiana border in Buck Creek Township, Mercer County. The bedrock floor elevation is thought to be about 700 ft at Scary

Figure 1
(See MAP Folder for location of cross-section)



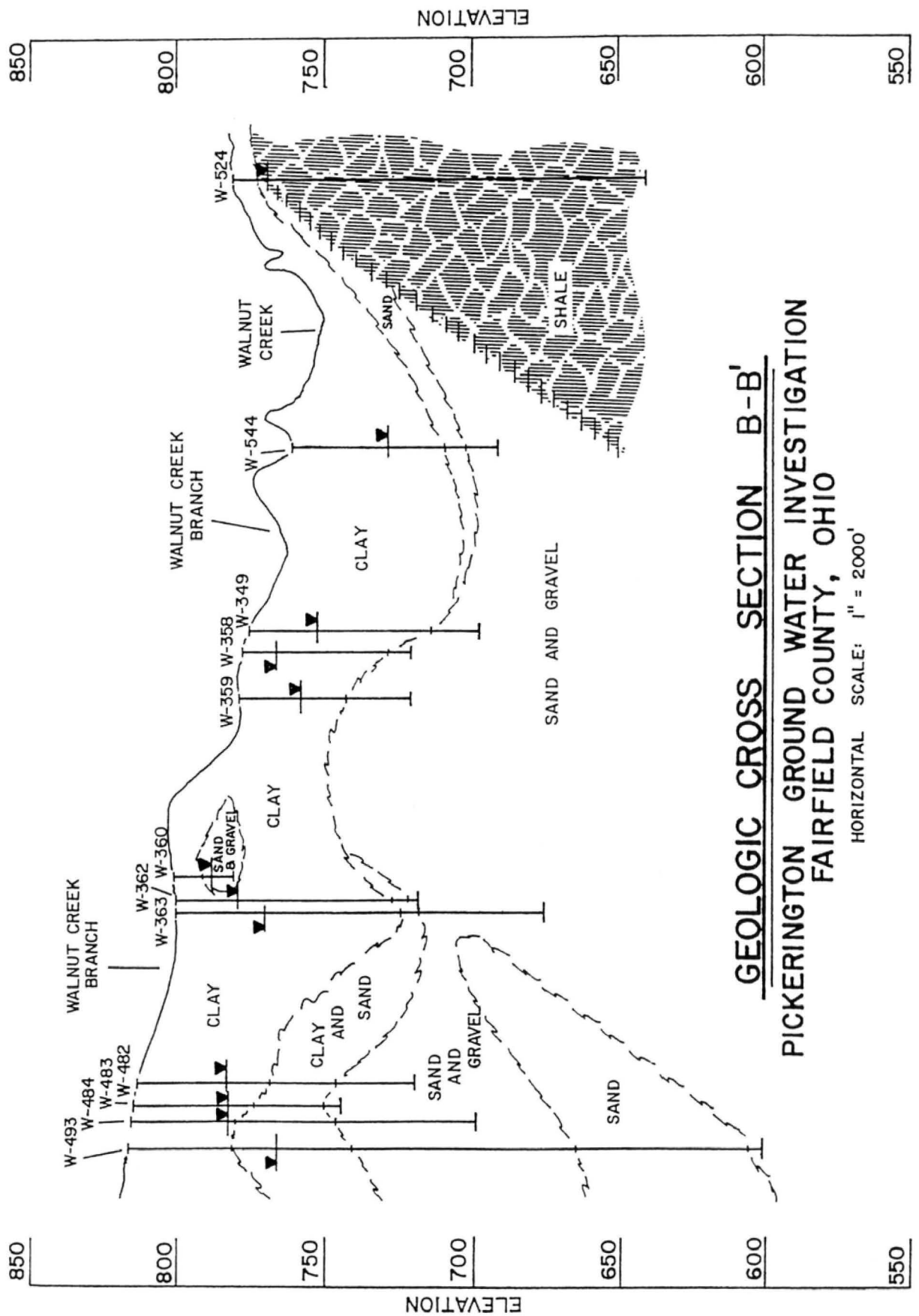
GEOLOGIC CROSS SECTION A-A'
PICKERINGTON GROUND WATER INVESTIGATION
FAIRFIELD COUNTY, OHIO
HORIZONTAL SCALE: 1" = 2000'

BBC&M ENGINEERING, INC.

PLATE 1

Figure 2

(See Map Folder for location of cross-section)

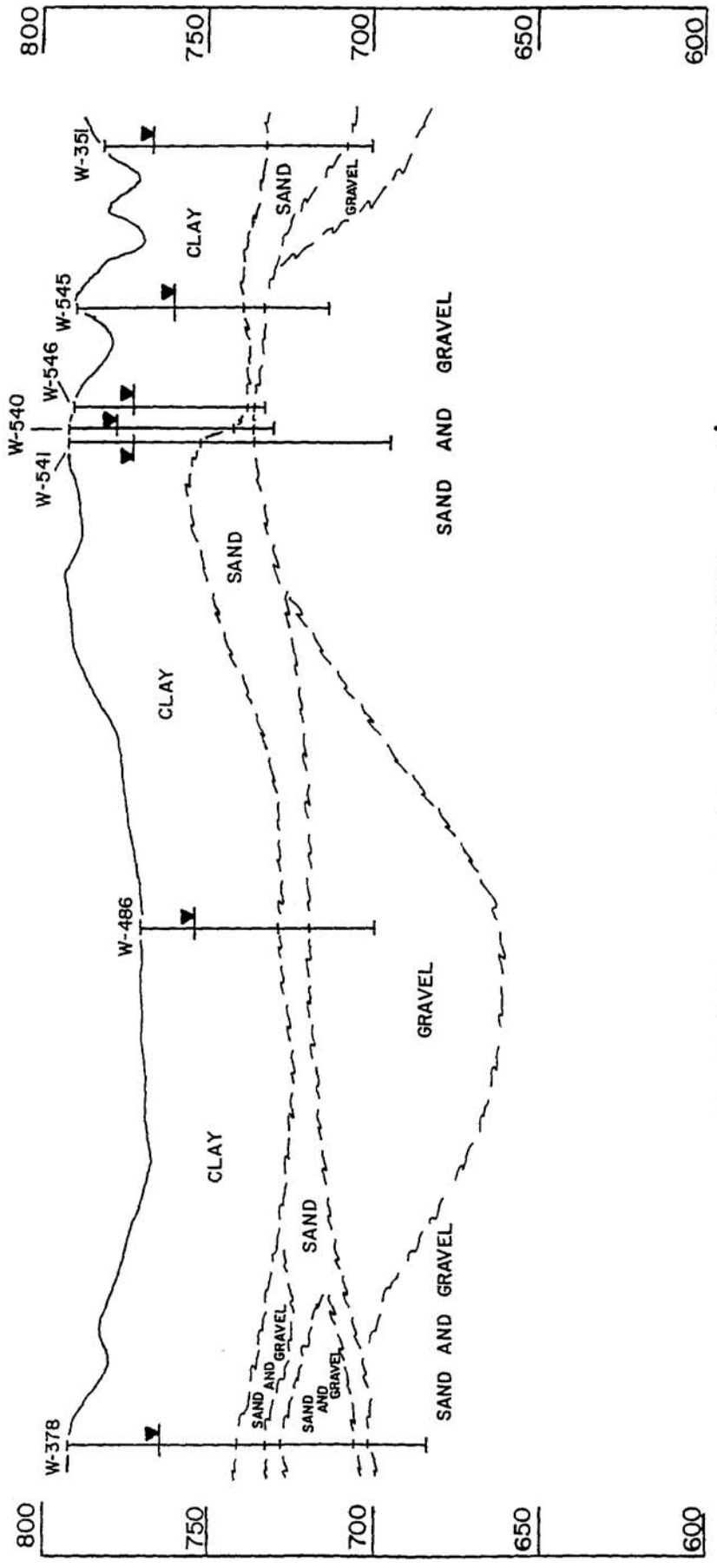


BBC&M ENGINEERING, INC.

PLATE 2

Figure 3

(See Map Folder for location of cross-section)



GEOLOGIC CROSS SECTION C-C'

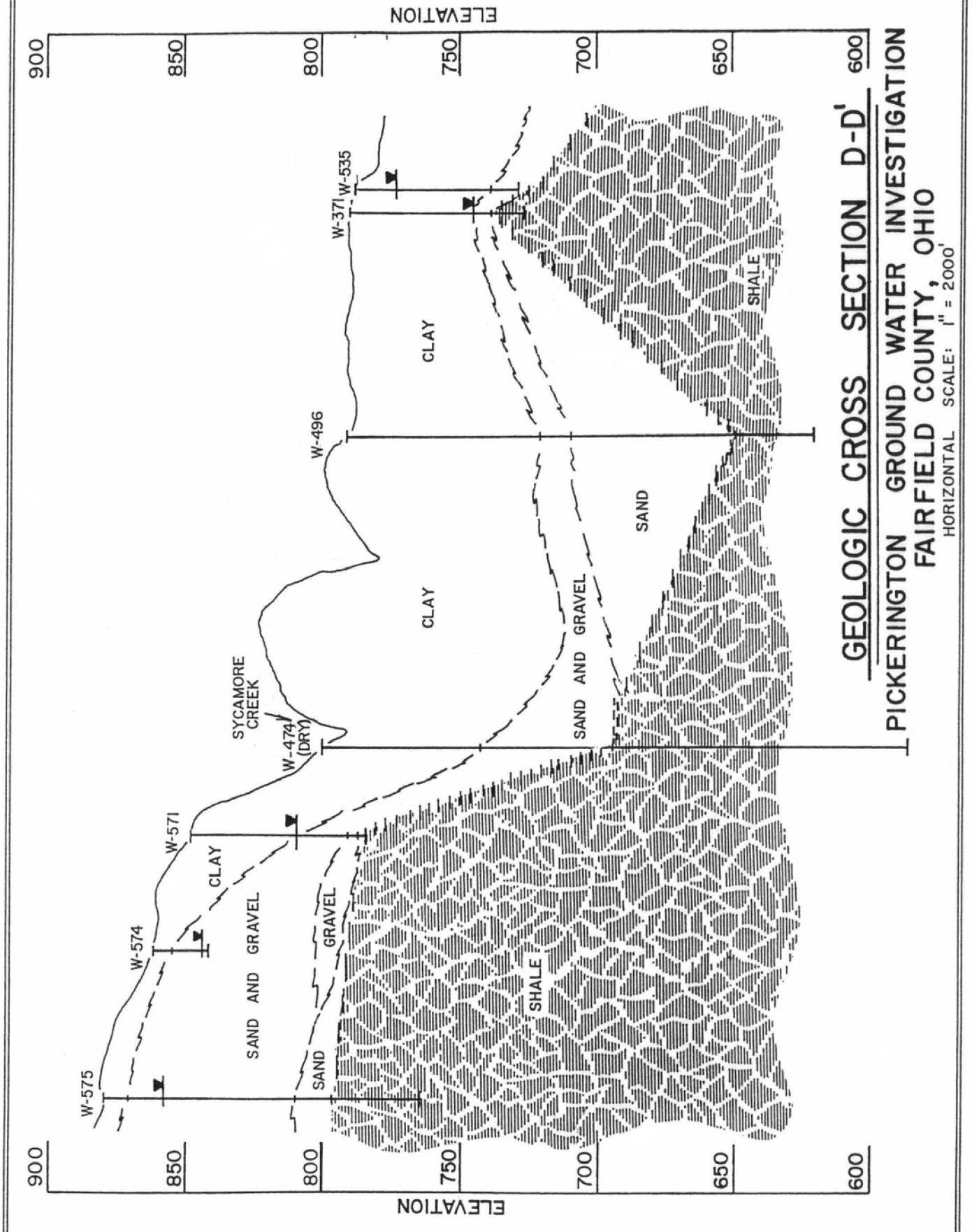
PICKERINGTON GROUND WATER INVESTIGATION
FAIRFIELD COUNTY, OHIO

HORIZONTAL SCALE: 1" = 2000'

BBC&M ENGINEERING, INC.

PLATE 3

Figure 4
(See Map Folder for location of cross-section)



BBC&M ENGINEERING, INC.

PLATE 4

Figure 5

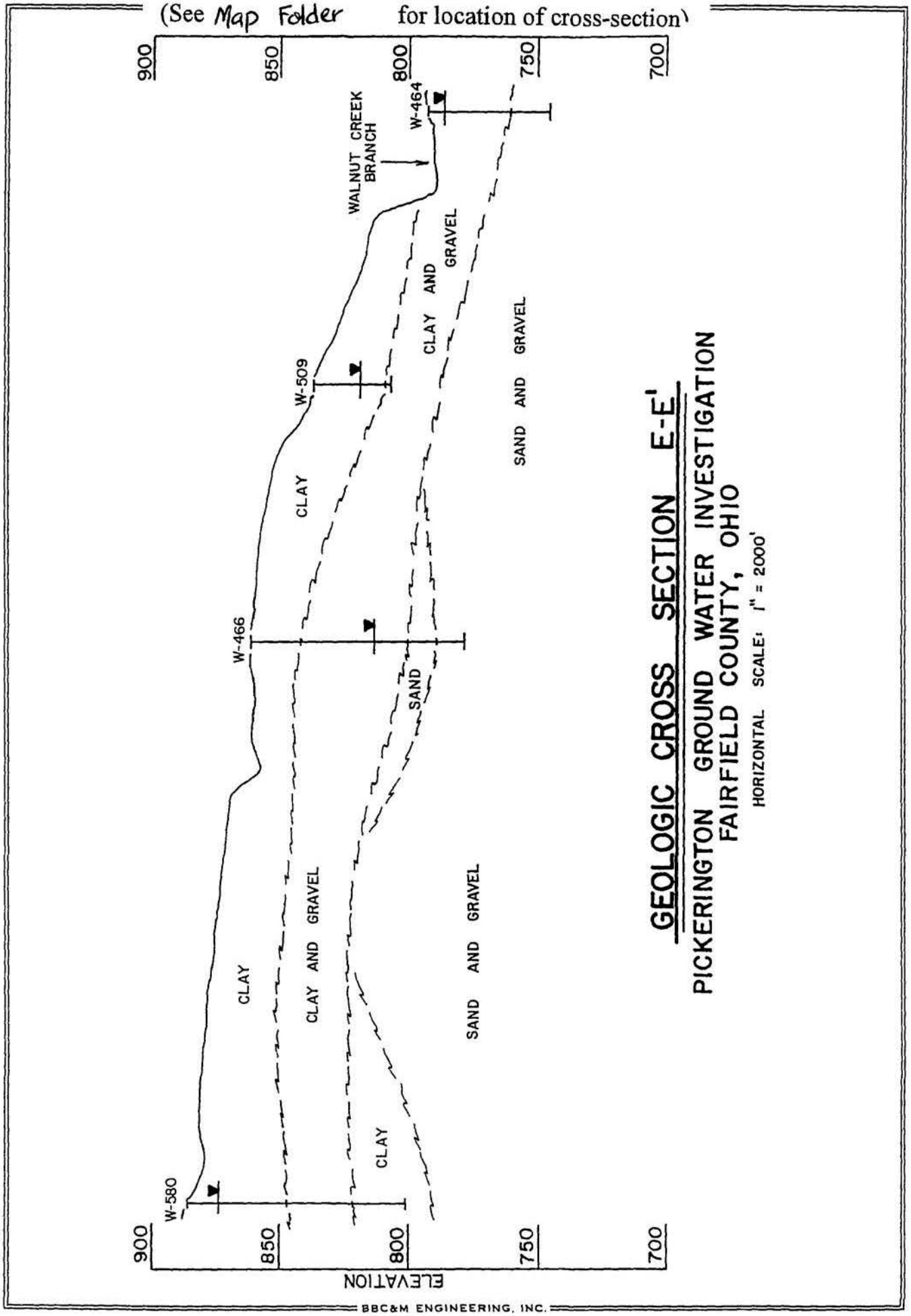


PLATE 5

CANAL WINCHESTER QUADRANGLE
OHIO
7.5 MINUTE SERIES (TOPOGRAPHIC)

4463 IV NE (EYNOLDSBURG)
4463 I NW (PATASKALA)

R 20 W
346
47'30"
347
1 920 000 FEET
348
350
82°45'
39°52'30"

PICKERINGTON 0.8 MI
PICKERINGTON
CORPORATE BOUNDARY
MAN ROAD
BOUNDARY
BUSEY RD
FRANKLIN CO
FAIRFIELD CO
Ditch
PIPELINE
Waldroon
Roadside Park
Covered Bridge
OHIO CANAL
OLD RAILROAD
WALNUT GRADE CREEK
Jobs Corners Cem
Currier
Jefferson
CHESTNUT RIDGE
METROPOLITAN PARK
Slough
Ridge
CARROLL 4.1 MI. LANCASTER
BM 776
BM 793
680 000 FEET

I O L E T

Lithology
bldr = boulder
cbl = cobble
cg = conglomerate
cl = clay
clsh = clayshale
cl-si = clayey silt
dm = dolomite
drt = dirt
fill
gr = gravel
gr+sd = gravel & sand
gr-sd = gravelly sand
hp = hardpan
ls = limestone
ovrbrdn = overburden
pbl = pebble
pl = plant
qsd = quick sand
rk = rock
sd = sand
sd+gr = sand & gravel
sd-gr = sandy gravel
sd-si = sandy silt
sh = shale
si = silt
si-cl = silty clay
si-sd = silty sand
ss = sandstone
stn = stone
till
ts = topsoil
w = water
wb = water bearing ...

Modifiers
bs = base
btm = bottom
btw = between
crs = coarse
est = estimated
fn = fine
frgmts = fragments
hd = hard
lg = large
ltl = little
lyr = layer
mat = matter
matl = material
NSR = no sample recovered
occ = occasional
org = organic
ovr = over
sft = soft
sm = some
sml = small
smpl = sample
tr =trace
ucs = unconfined compressive strength
v = very
w/ = with
wthrd = weathered

Colors
bl = blue
blk = black
br = brown
dk = dark
grn = green
gy = gray
lt = light
mtl = mottled
rd = red
wh = white
ylw = yellow

Driller's Terms
bank run = gravel
engine sd = sdstone
flannigan = cl or sh
freestone = friable ss
glacial fill = till
gumbo = sft-sticky-cl
honeycomb = cl+sd
schist = sandy sh
shelby tube = st
slate = shale
soapst = greasy sh

Data Point Symbols
X -bdrk expd at surface
-waterwell
-strat sec from OGS files
-odot boring
-engr data from OGS files
-glacial outcrop
+ -oil and gas well
-glacial strat section

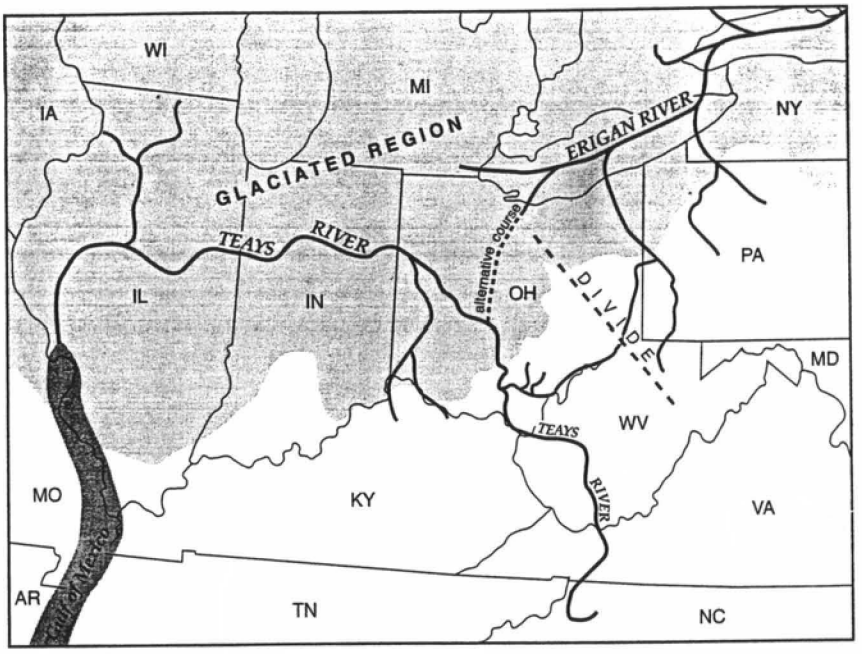
Date water wells/data located:

Transcribed by: date:

Figure 6
The Northeastern Corner of the Canal Winchester 7.5' Topographic Map
BBC&M Cross section
Thesis Cross section
1" = 24.000'

(on the Kanawha River) and descends to 460 ft at the St. Mary's Reservoir. This gradient indicates the Teays was a very mature river, as expected from its extensive valley and the well-rounded and degraded hills. (Stout, et al. p53.)

Figure 7



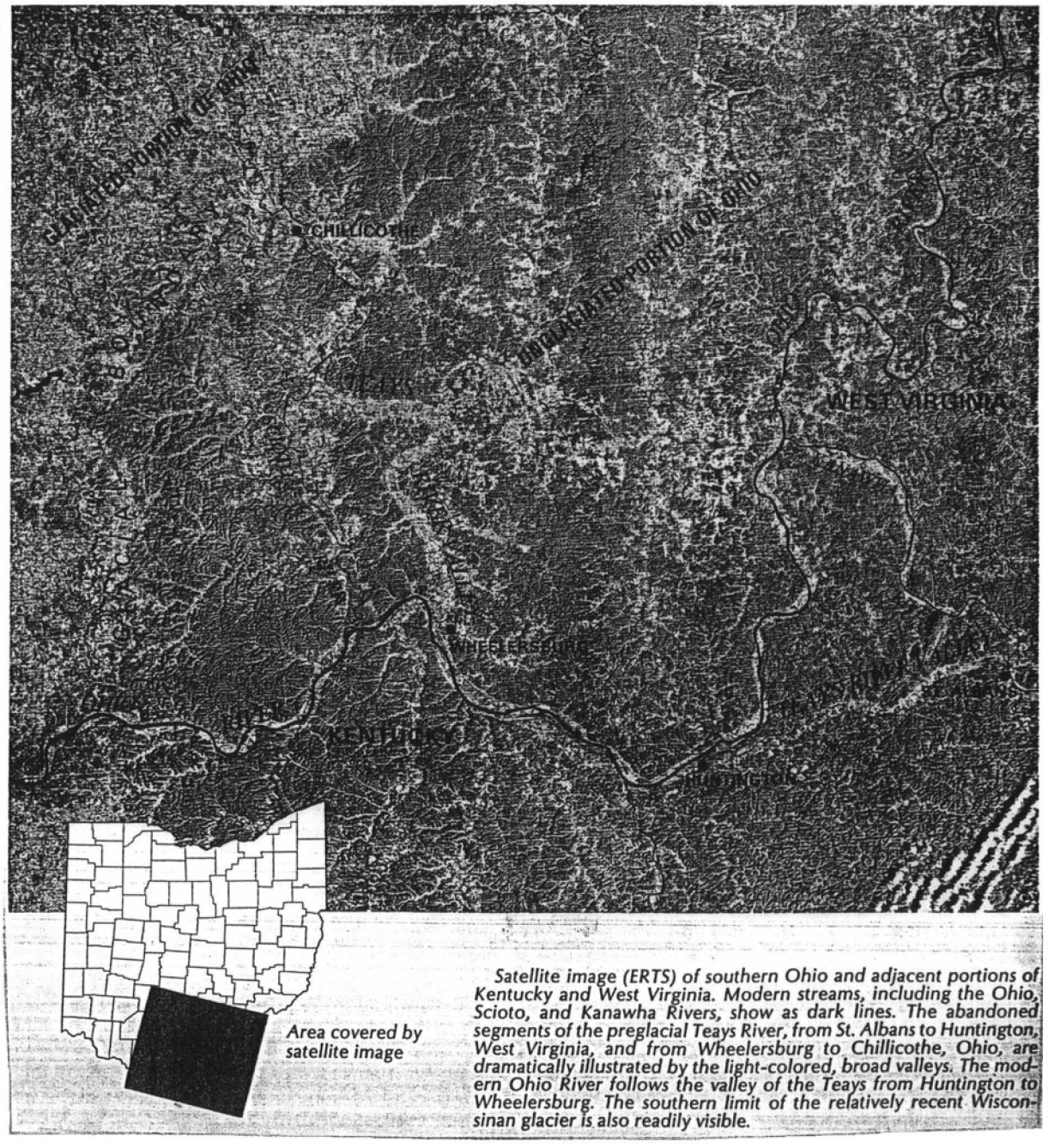
Classic interpretation of the preglacial Teays River and an alternative course (dashed line) favored by some geologists. The entire extent of the Teays and its tributaries north of the glacial border is buried beneath thick glacial drift. Northern Ohio was drained by the Erigan River, which followed the axis of what is now Lake Erie, and flowed into the ancestral St. Lawrence River. Neither the Great Lakes nor the Ohio River existed at this time.

Glaciation

During the earliest glacial event to affect the area, a Kansan or pre-Kansan glacier, the Teays normal flow path was obstructed. This began the Deep Stage drainage. The glacier resulted in a large lake (almost 7,000 square miles) in southern Ohio. The lake elevation increased to almost 900 feet. Many cols were created during this period as the waters tried to find other flow paths. Typical of this time were many long finger lakes formed by flooded

areas and the deposition of the Minford clay. At this period, a regional uplift took place rather rapidly. This uplift caused erosion of the streambeds to cut much deeper and to cut much steeper valleys than they had previously. Also important during this period was the increase in the number of new streams and the immaturity of the basins. This second stage of drainage had little similarity to the previous Teays System drainage network. Some geologists believe the buried valley in western Ohio was formed from the meltwater at the edge of a previous glacier, not the Teays River (Fig. 8).

Figure 8



Satellite image (ERTS) of southern Ohio and adjacent portions of Kentucky and West Virginia. Modern streams, including the Ohio, Scioto, and Kanawha Rivers, show as dark lines. The abandoned segments of the preglacial Teays River, from St. Albans to Huntington, West Virginia, and from Wheelersburg to Chillicothe, Ohio, are dramatically illustrated by the light-colored, broad valleys. The modern Ohio River follows the valley of the Teays from Huntington to Wheelersburg. The southern limit of the relatively recent Wisconsinan glacier is also readily visible.

The Illinoian glaciation was not as great as the Kansan or pre-Kansan event. In the Cincinnati River valley, the glacier created a ponding of water for an extended period of time before a release was found. However, there is no indication that any new or temporary streams were created. It is likely that the large water pool increased in elevation enough to reverse the direction of stream flow. The high sand terraces along the valley support this idea. These terraces are formed by fine sand, commonly with silty leaf beds and tree debris. These materials are characteristic of a lethargic flow or a ponded deposition environment. The sand terraces are located lower (and younger) than the Minford clays, but higher (and older) than the Illinoian outwash terraces. During the glacier's retreat, several changes occurred. The river's flow reverted to again flow westward. Many new streams appeared, with small amounts of drift. Several existing streams merged together resulting in massive accumulations of outwash in places.

The Wisconsin was the last significant period of glaciation to come through Ohio. This glacier is thought to be somewhat thicker and more massive then the Illinoian. Across most of the state the end moraine of the Wisconsin trails behind the Illinoian by only a few miles, except in the west where the Wisconsin trails by 15 to 40 miles. Its largest contributions were the large amount of floodwaters and the large amounts of outwash that filled the valleys. The floodwaters added to existing streams and created new streams. The outwash made the base stream elevations higher. Also in some places, stream flow direction was reversed.

SOILS

The soil types of an area may have some usefulness. The soils are characteristic of the material they were derived from (Appendix B: Soils). However, this is only indicative of the top five feet. In some circumstances, it may be assumed that the soil is indicative to a greater depth. Also, soil data is continuous, unlike bedrock or other data where interpolation must be used.

AQUIFER

The underlying bedrock in the area of interest is mapped as undivided Ohio and Olentangy shales. Shale is resistant to fluids traveling through it. This means that the water in the valley stays confined to the valley and does not migrate further down into the stratigraphy. The sand and gravel that make up the aquifer are porous, allowing a relatively free flow of water through this unit. Although this is good for getting water out of the aquifer, it also means that the area is susceptible to contamination. The ground water pollution potential index for the area is 138. This value was calculated by weighting certain factors against others (Fig. 9). (Schmidt, p.143) This number is used in comparison to other areas. As expected, buried valley regions are more susceptible to pollution than other areas. The cross section area should be able to handle wells that produce 25 gallons per minute. Some confined areas with coarser sediments should produce wells that yield up to 100gpm. (Schmidt, map.)

Figure 9: Factors Used to Calculate Pollution Potential Index for Cross Section Area

Setting 7D145		GENERAL		
FEATURE	RANGE	WEIGHT	RATING	INDEX
Depth to Water	15-30	5	7	35
Net Recharge		4	6	24
Aquifer Media	Sand and Gravel	3	7	21
Soil Media	Clay Loam	2	3	6
Topography	0-2%	1	10	10
Impact of Vadose Zone	Sand and Gravel w/Silt and Clay	5	6	30
Hydraulic Conductivity	300-700	3	4	12
		GWPP	INDEX	138

METHOD

The data for the cross section comes from water well logs (Appendix C: Well Logs). A water well log is required to be submitted for each well that is drilled. Each log contains the address and a rough sketch of the location of the well. It also has the different materials encountered and their thickness. These logs are kept on file according to county and township at the Ohio Department of Natural Resources, Division of Water. The logs are numbered sequentially and located on a 7.5' topographic map.

The water well logs gathered for Fairfield County, Violet Township were first transcribed onto 7.5' topographic maps (Fig. 6). However, not all logs were transcribed. Due to the limited space and the large number of wells in the area, collection was limited to the data from the 1991 folders. The line selected for the cross section was due to several factors. First, representative well logs were identified. The more useful logs were detailed and deep. A good-sized grouping of logs was also searched for. In order to correlate the stratigraphy between two of the consultants' cross sections, the line selected needed to stretch between two

of the similar sections. The cross sections by BBC&M Engineers, Inc. were obtained from files at the Ohio Department of Natural Resources, Division of Water. Because of the locations of the transcribed wells, sections B-B' and D-D' were used. B-B' and D-D' show similar stratigraphy with the bedrock more eroded on B-B'. This is acceptable, since B-B' is farther west and been more affected by the glaciation events than D-D' (Figs 2, 4 & 10).

The scales were selected for mapping clarity. The horizontal scale was doubled from the topographic map to accommodate the middle area containing a large grouping of logs. The vertical scale was selected to adequately show the profile of the surface and bedrock topography. The cross section fell between the 500 and the 550 contour lines on the bedrock-topography map. To draw the bedrock profile, several intermediate contour lines were interpolated. The uppermost unit shown in the cross section is till. It is close enough to the surface to have been oxidized. Another till unit is next, in which clay, sandy clay, and clay with gravel were combined. The underlying aquifer consists of sand and gravel. Typical to this kind of deposition, there are a couple of small lenses of sand, clay and gravel. The bedrock was not seen in any of the water well logs. There were no oil & gas logs in the area to get deeper stratigraphy from.

SUMMARY

The resulting cross section shows profile along the axis of a deep burial valley. Interestingly, the bedrock slopes to the east but the nearby Walnut Creek flows to the west. The large amount of depth where there is no data collected would be interesting to further explore, if data becomes available. The large amount of till overlying the aquifer should be a fairly good barrier against contamination. It appears that this valley could accommodate a larger well field for the city of Pickerington and Fairfield County.

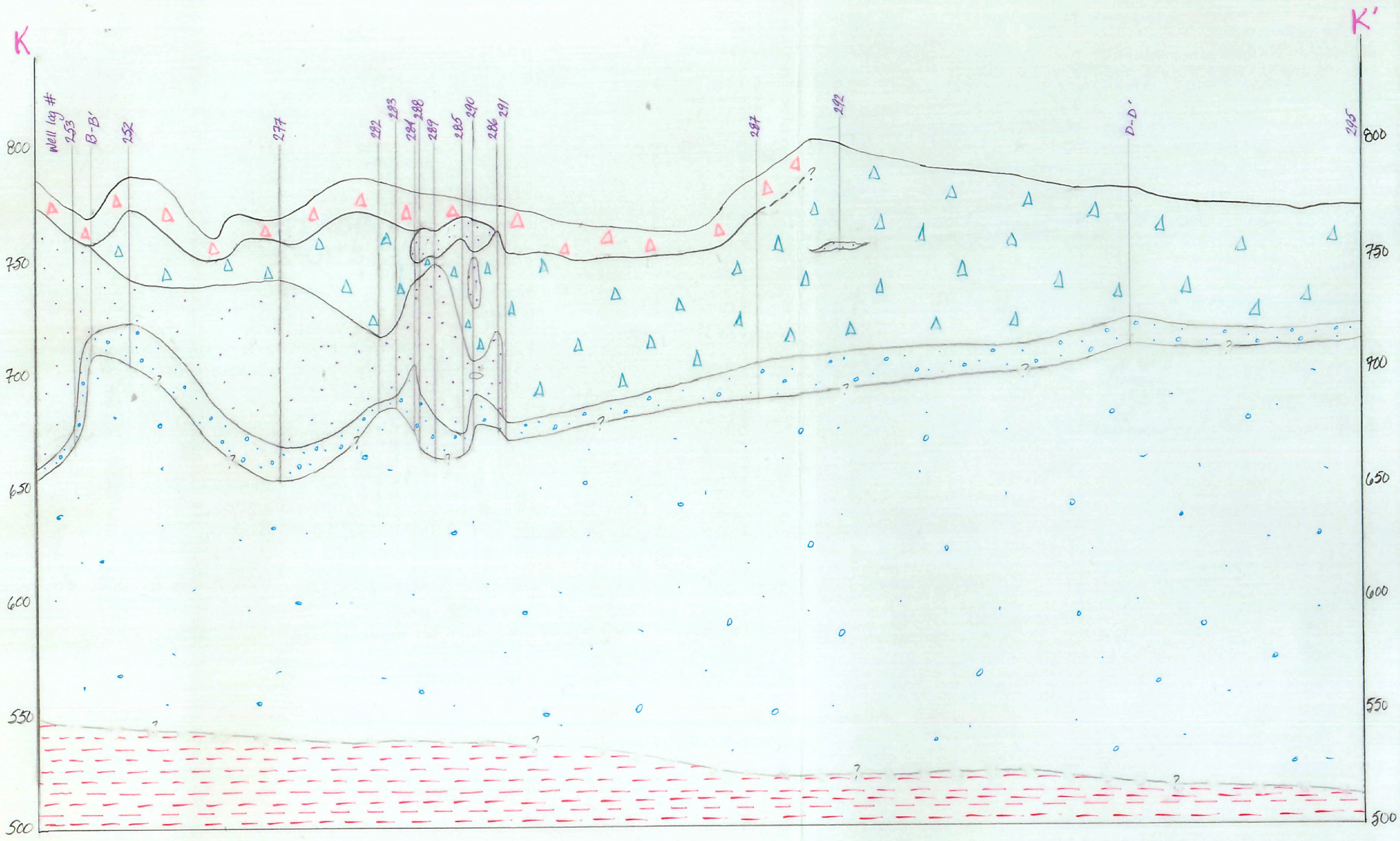


Figure 10
Cross-Section K-K'

APPENDIX A
SOILS

Fairfield County Soils

Soil Symbol	Name	Lithology
AfB	Alford silt loam	T1
AfC2	Alford silt loam	T1
Ag	Aetna silt loam	a
Ah	Aetna silt loam	a
AmB	Amanda silt loam	T1
AmB2	Amanda silt loam	T1
AmC2	Amanda silt loam	T1
AmD2	Amanda silt loam	T1
AmE2	Amanda silt loam	T1
AoC3	Amanda silty clay loam	T1
AoD3	Amanda silty clay loam	T1
ApB2	Amanda-Loudonville complex	T/Ss
ApC2	Amanda-Loudonville complex	T/Ss
ApD2	Amanda-Loudonville complex	T/Ss
ArC2	Amanda-Ockley complex	T1
ArD2	Amanda-Ockley complex	T1
Bb	Beaucoup silty clay loam	a
BeA	Bennington silt loam	T1
BeB	Bennington silt loam	T1
BkF	Berks channery silt loam	Ss
CaB	Cardington silt loam	T1
CaB2	Cardington silt loam	T1
CaC2	Cardington silt loam	T1
CaD2	Cardington silt loam	T1
Cb	Carlisle muck	o
CdF	Cedarfalls-Rock outcrop complex	Ss
CeB	Celina silt loam	T1
CfB	Centerburg silt loam	T1
CfB2	Centerburg silt loam	T1
CfC2	Centerburg silt loam	T1
Cg	Chagrin silt loam	a
CkC2	Cincinnati silt loam	Ti
CmC2	Cincinnati-Wellston complex	T/SSh
Cn	Condit silt loam	T1
CoB	Corwin silt loam	T1
CrA	Crosby silt loam	T1
CsA	Canal silt loam	C
Ee	Eel silt loam	a
EkA	Eldean silt loam	SG
EkB	Eldean silt loam	SG
EnC2	Eldean gravelly loam	SG
Eu	Euclid silt loam	a
FbA	Fitchville silt loam	C
FhA	Fox loam	SG
FhB	Fox loam	SG
FhC2	Fox loam	SG
FhD2	Fox loam	SG
FmA	Fox silt loam	SG
FmB	Fox silt loam	SG
GaB	Gallman silt loam	SG/T
GcD	Germano sandy loam	Ss
GcE	Germano sandy loam	Ss

GdF	Germano-Rock outcrop complex	Ss
Gf	Gessie silt loam	a
Gg	Gessie silt loam	a
GkC	Gilpin silt loam	Ss
GkD	Gilpin silt loam	Ss
GnB	Glenford silt loam	C
GnC2	Glenford silt loam	C
HhC2	Hickory silt loam	T1
HkE	Hickory-Germano complex	T/Ss
HmD2	Hickory-Gilpin complex	T/Ss
HnC2	Homewood silt loam	Ti
HoD2	Homewood-Gilpin complex	T1
HoE2	Homewood-Gilpin complex	T1
JeB	Jeneva silt loam	Ti
Km	Kokomo silt loam	T1
Ko	Kokomo silty clay loam	T1
Lk	Lindside silt loam	a
LtC2	Loudonville-Steinsburg complex	T/Ss
LtD2	Loudonville-Steinsburg complex	T/Ss
LtE	Loudonville-Steinsburg complex	T/Ss
LtF	Loudonville-Steinsburg complex	T/Ss
Ma	Marengo silt loam	T1
Mb	Marengo silt loam	T1
McB	McGary silt loam	C
Me	Medway silt loam	a
MkB2	Miamian silt loam	T1
MkC2	Miamian silt loam	T1
MmC3	Miamian-Thrifton complex	T1
MmD3	Miamian-Thrifton complex	T1
Mo	Montgomery silt loam	C
Mr	Muskego muck	o
NaD2	Negley loam	SG
NaE	Negley loam	SG
Ne	Newark silt loam	a
OcA	Ockley silt loam	SG
OcB	Ockley silt loam	SG
Pa	Patton silty clay loam	C
Pb	Patton clay loam	C
Pe	Pewamo silty clay loam	T1
Ph	Pits, quarries	m
PkB	Pike silt loam	SG
PkC2	Pike silt loam	SG
Ro	Rockmill silt loam	o
Rp	Rockmill silt loam	o
Rt	Rossburg silt loam	a
Sc	Sebring silt loam	a
SdD	Shelocta silt loam	a
SeE	Shelocta-Berks complex	Sh
SfD	Shelocta-Cruze complex	Sh
SfE	Shelocta-Cruze complex	Sh
Sh	Shoals silt loam	a
SkA	Sleeth silt loam	SG
St	Stonelick sandy loam	a
TaC2	Tarlton silt loam	SG
ThA	Thackery silt loam	SG

ThB	Thackery silt loam	SG
Ud	Udorthents, loamy	m
Uf	Udorthents, loamy, organic substratum	o
Ug	Udorthents, loamy	SG
Um	Urban land-Aetna complex	a
UoC	Urban land-Amanda complex	T1
UrB	Urban land-Bennington complex	T1
UtC	Urban land-Cardington complex	T1
UuB	Urban land-Celina complex	T1
UxB	Urban land-Ockley complex	SG
Uy	Urban land-Udorthents complex	m
W	Water	w
WdA	Wea silt loam	SG
WeC	Wellston silt loam	Ss
WfC	Wellston-Cruze complex	Ss
Wg	Westland silt loam	SG
Wk	Westland silty clay loam	SG
ZnB	Zanesville silt loam	Sh
ZnC2	Zanesville silt loam	Sh

Fairfield County Soils

Soil Symbol	Name	Lithology
Ag	Aetna silt loam	a
Ah	Aetna silt loam	a
Bb	Beaucoup silty clay loam	a
Cg	Chagrin silt loam	a
Ee	Eel silt loam	a
Eu	Euclid silt loam	a
Gf	Gessie silt loam	a
Gg	Gessie silt loam	a
Lk	Lindside silt loam	a
Me	Medway silt loam	a
Ne	Newark silt loam	a
Rt	Rossburg silt loam	a
Sc	Sebring silt loam	a
SdD	Shelocta silt loam	a
Sh	Shoals silt loam	a
St	Stonelick sandy loam	a
Um	Urban land-Aetna complex	a
CsA	Canal silt loam	C
FbA	Fitchville silt loam	C
GnB	Glenford silt loam	C
GnC2	Glenford silt loam	C
McB	McGary silt loam	C
Mo	Montgomery silt loam	C
Pa	Patton silty clay loam	C
Pb	Patton clay loam	C
Ph	Pits, quarries	m
Ud	Udorthents, loamy	m
Uy	Urban land-Udorthents complex	m
Cb	Carlisle muck	o
Mr	Muskego muck	o
Ro	Rockmill silt loam	o
Rp	Rockmill silt loam	o
Uf	Udorthents, loamy, organic substratum	o
EkA	Eldean silt loam	SG
EkB	Eldean silt loam	SG
EnC2	Eldean gravelly loam	SG
FhA	Fox loam	SG
FhB	Fox loam	SG
FhC2	Fox loam	SG
FhD2	Fox loam	SG
FmA	Fox silt loam	SG
FmB	Fox silt loam	SG
NaD2	Negley loam	SG
NaE	Negley loam	SG
OcA	Ockley silt loam	SG
OcB	Ockley silt loam	SG
PkB	Pike silt loam	SG
PkC2	Pike silt loam	SG
SkA	Sleeth silt loam	SG
TaC2	Tarlton silt loam	SG
ThA	Thackery silt loam	SG
ThB	Thackery silt loam	SG

Ug	Udorthents, loamy	SG
UxB	Urban land-Ockley complex	SG
WdA	Wea silt loam	SG
Wg	Westland silt loam	SG
Wk	Westland silty clay loam	SG
GaB	Gallman silt loam	SG/T
SeE	Shelocta-Berks complex	Sh
SfD	Shelocta-Cruze complex	Sh
SfE	Shelocta-Cruze complex	Sh
ZnB	Zanesville silt loam	Sh
ZnC2	Zanesville silt loam	Sh
BkF	Berks channery silt loam	Ss
CdF	Cedarfalls-Rock outcrop complex	Ss
GcD	Germano sandy loam	Ss
GcE	Germano sandy loam	Ss
GdF	Germano-Rock outcrop complex	Ss
GkC	Gilpin silt loam	Ss
GkD	Gilpin silt loam	Ss
WeC	Wellston silt loam	Ss
WfC	Wellston-Cruze complex	Ss
ApB2	Amanda-Loudonville complex	T/Ss
ApC2	Amanda-Loudonville complex	T/Ss
ApD2	Amanda-Loudonville complex	T/Ss
HkE	Hickory-Germano complex	T/Ss
HmD2	Hickory-Gilpin complex	T/Ss
LtC2	Loudonville-Steinsburg complex	T/Ss
LtD2	Loudonville-Steinsburg complex	T/Ss
LtE	Loudonville-Steinsburg complex	T/Ss
LtF	Loudonville-Steinsburg complex	T/Ss
CmC2	Cincinnati-Wellston complex	T/SSh
AfB	Alford silt loam	T1
AfC2	Alford silt loam	T1
AmB	Amanda silt loam	T1
AmB2	Amanda silt loam	T1
AmC2	Amanda silt loam	T1
AmD2	Amanda silt loam	T1
AmE2	Amanda silt loam	T1
AoC3	Amanda silty clay loam	T1
AoD3	Amanda silty clay loam	T1
ArC2	Amanda-Ockley complex	T1
ArD2	Amanda-Ockley complex	T1
BeA	Bennington silt loam	T1
BeB	Bennington silt loam	T1
CaB	Cardington silt loam	T1
CaB2	Cardington silt loam	T1
CaC2	Cardington silt loam	T1
CaD2	Cardington silt loam	T1
CeB	Celina silt loam	T1
CfB	Centerburg silt loam	T1
CfB2	Centerburg silt loam	T1
CfC2	Centerburg silt loam	T1
Cn	Condit silt loam	T1
CoB	Corwin silt loam	T1
CrA	Crosby silt loam	T1
HhC2	Hickory silt loam	T1

HoD2	Homewood-Gilpin complex	T1
HoE2	Homewood-Gilpin complex	T1
Km	Kokomo silt loam	T1
Ko	Kokomo silty clay loam	T1
Ma	Marengo silt loam	T1
Mb	Marengo silt loam	T1
MkB2	Miamian silt loam	T1
MkC2	Miamian silt loam	T1
MmC3	Miamian-Thrifton complex	T1
MmD3	Miamian-Thrifton complex	T1
Pe	Pewamo silty clay loam	T1
UoC	Urban land-Amanda complex	T1
UrB	Urban land-Bennington complex	T1
UtC	Urban land-Cardington complex	T1
UuB	Urban land-Celina complex	T1
CkC2	Cincinnati silt loam	Ti
HnC2	Homewood silt loam	Ti
JeB	Jeneva silt loam	Ti
W	Water	w

APPENDIX B
WELL LOGS

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

594680 178

COUNTY ~~Franklin~~ Fairfield TOWNSHIP Violet SECTION OF TOWNSHIP

OWNER Floyd Lott (Estate) ADDRESS

LOCATION OF PROPERTY 7279 Waterloo Rd, Canal Winchester, OH 43110

CONSTRUCTION DETAILS

Casing diameter 5" Length of casing 105'3"
Type of screen Perf 1/4" Length of screen 36"
Type of pump Sub.
Capacity of pump 15 GPM
Depth of pump setting 70'
Date of completion 20 Nov 84

BAILING OR PUMPING TEST
(specify one by circling)

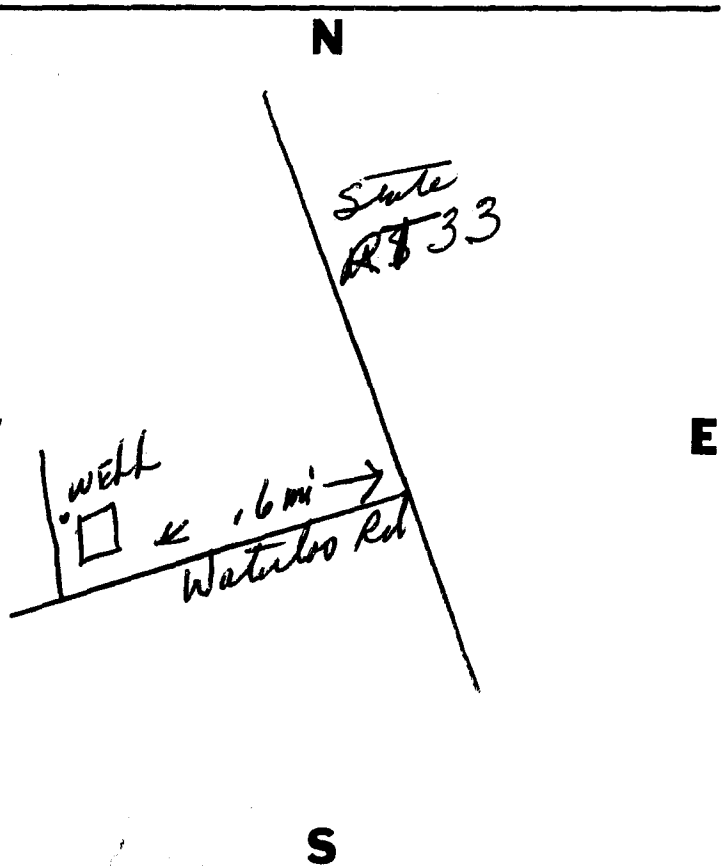
Test rate 15 gpm Duration of test 1/4 hrs
Drawdown 0 ft Date 13 Nov 84
Static level (depth to water) 22' ft
Quality (clear, cloudy, taste, odor)
Pump installed by Dick Bauer Well Drilling

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Topsoil / Clay	0 ft	25 ft
Dirty grits / Clay Brown	25	98
Sand & Gravel	98	104
	778	
	1041	
	674-	

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Dick Bauer Well Drilling DATE 2 May 85
ADDRESS 1075 Miller Ave, Canal Winchester, OH SIGNED D Bauer

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224 253

County Permit No. _____

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

537441 (356)

COUNTY Ranfield TOWNSHIP Violet SECTION OF TOWNSHIP _____

OWNER Ron Selzer ADDRESS Col. O.

LOCATION OF PROPERTY Hill Rd + Watubo Place · 6973 Hill

CONSTRUCTION DETAILS

Casing diameter 6" O.D. Length of casing 70

Type of screen Mfg Hole Length of screen 1'

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 15 gpm Duration of test 1 hrs

Drawdown 2 ft Date 6-15-79

Static level (depth to water) 7 7 ft

Quality (clear, cloudy, taste, odor) _____

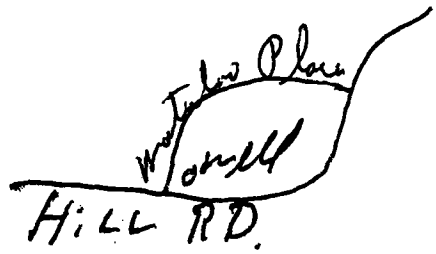
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Yellow Clay	0 ft	15 ft
Blue Clay	15	30
Blue Clay + Sand	30	40
Sand	40	50
Sand + Gravel	50	70
	785	
	70+	
	715-	

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Shot Inc. DATE 6-15-79

ADDRESS Lithopolis, O SIGNED Karl Shot

*If additional space is needed to complete well log, use next consecutive numbered form.

252

WELL LOG AND DRILLER'S REPORT

701214

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224
(614) 265-6739

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 407

184

COUNTY Fairfield TOWNSHIP Violet SECTION/LOT NO. (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Carl Thompson - Don Davis PROPERTY ADDRESS 2088 Dicky Rd (ADDRESS OF WELL LOCATION)

LOCATION OF PROPERTY Intersection of Dicky Rd & Waterloo Rd

CONSTRUCTION DETAILS

CASING
Diameter 5 in. Length 116 ft. Wall Thickness .244 in.
Type: ☑ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☐ Threaded ☑ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) C Material PVC
Length 20' ft. Diameter 4" in.
Set between 116 ft. and 106 ft. Slot .032
☐ Rotary ☑ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other
Date of completion 2-24-90

GROUT
Material slurr Volume used ?
Method of installation driven
Depth: placed from 0 ft. to 116 ft.

GRAVEL PACK
Material ✓ Volume used
Method of installation
Depth: placed from ✓ ft. to ft.
Pitless Device ☑ Adapter ☐ Preassembled unit
Use of Well Domestic

PUMP

Type of pump 5HP Capacity 5 gpm
Pump set at 96' ft.
Pump installed by PWWS

WELL TEST

Bailing ☐ or Pumping ☑
Test rate 5 gpm Duration of test 10 hrs.
Drawdown 80 ft.
Measured from: ☑ top of casing ☐ ground level ☐ Other
Static Level (depth to water) 15 ft. Date: 3-25-90
Quality (clear, cloudy, taste, odor) Frow
(Attach a copy of the pumping test record, per 1521.05, ORC)

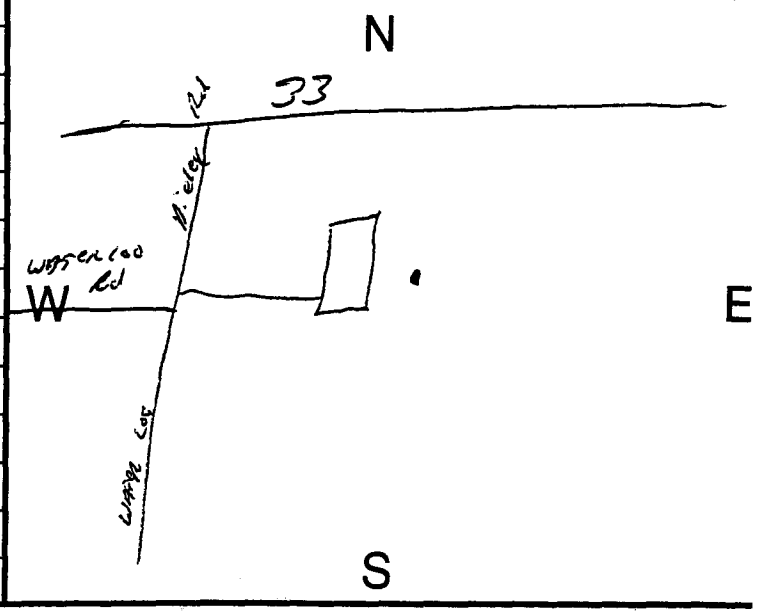
WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Yellow clay	0 ft.	10 ft.
Grn clay Gravel	10	26
~~26~~ very fine sand water	26	87
coarse sand water	87	100
coarse sand fine gravel	100	106
very dirty		
coarse to fine gravel	106	116
water		
		769
		116+
		653-

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form

DNR 7802.88

DRILLING FIRM Professional Water Well Systems SIGNED [signature]
ADDRESS 3645 Manila Dr. DATE 3-27-90
CITY, STATE, ZIP Westerville, Ohio 43081 ODH REGISTRATION NUMBER 1668

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224 277

Blue - Customer's Copy Pink - Driller's Copy Green - Local Health Dept. Copy

WELL LOG AND DRILLING REPORT

(324)
690321

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 90-033

COUNTY FAIRFIELD TOWNSHIP VIOLET SECTION OF TOWNSHIP 28

OWNER DANIEL P. CONLEY PROPERTY ADDRESS 9832 WATERLOO EASTERN

LOCATION OF PROPERTY 33 TO DILEY RD. LEFT TO WATERLOO

CONSTRUCTION DETAILS

CASING
Casing Diameter 5 in. Length of Casing 102 ft.
Type: ☑ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☑ Threaded ☐ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) SLOT Material STEEL
Length 2 ft. Diameter 5" CASG in.
Set between 98 ft. and 100 ft. Slot ✓
2 FT. PLUG

GROUT
Material BENSEAL Volume used 50#
Method of installation POUR IN DRY
Depth: placed from 10 ft. to 18 ft.
☐ Rotary ☑ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other

BAILING OR PUMPING TEST
(specify one by circling)

WELL TEST
Test rate 20+ gpm Duration of test 1 hrs.
Drawdown (water level during pumping) 11 ft.
Measured from: ☑ top of casing ☐ ground level ☐ Other
Static Level (depth to water) 32 ft. Date: 4/27/90
Quality (clear, cloudy, taste, odor)

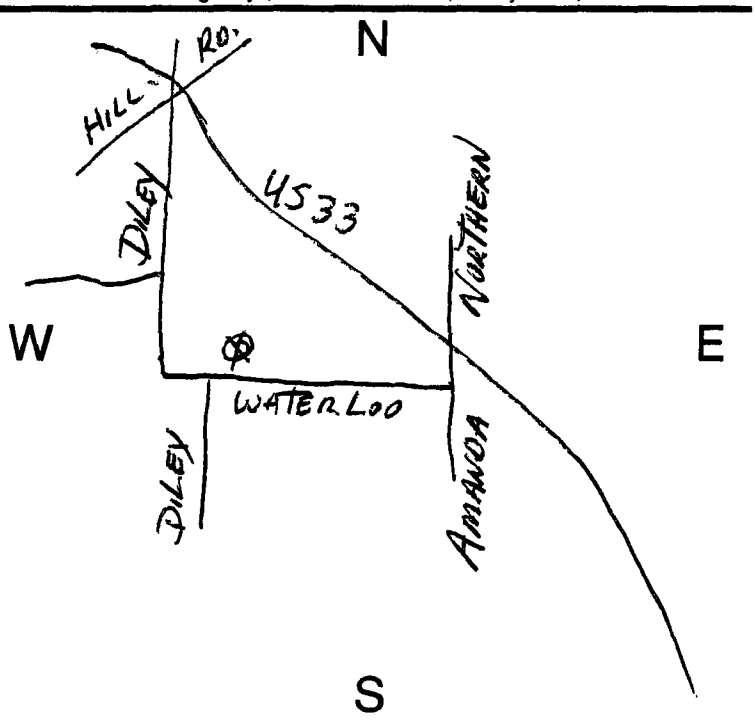
PUMP
Type of pump 1/2 SUB Capacity 11 gpm
Pump set at 80 FT. ft.
Pump installed by ALLIANCE WATER WELL INC.
Pitless Device ☑ Adapter ☐ Preassembled unit
Use of Well PRIVATE

WELL LOG*

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand	From	To
CLAY & GRAVEL	0 ft.	33 ft.
SANDY CLAY	33	66
FINE DIRTY SAND	66	96
WATER SAND & GRAVEL	96	102
WELL FINISHED AT 100 FT. FROM TOP OF CASING WITH 2 FT. SLOT & 2 FT. PLUG		
		785
		102
		683

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802.88

DRILLING FIRM ALLIANCE WATER WELL, INC.
ADDRESS 6620 Pleasantview Road
CITY, STATE, ZIP Lancaster, Ohio 43130
(614) 569-7560

SIGNED Donald J. Rienschield
DATE 4/28/90
ODH REGISTRATION NUMBER 289

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

282

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

WELL LOG AND DRILLING REPORT

323

690320

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 90-032

COUNTY FAIRFIELD TOWNSHIP VIOLET SECTION OF TOWNSHIP 28

OWNER MICHAEL ARTHUR PROPERTY ADDRESS 9810 WATERLOO EASTERN N.W

LOCATION OF PROPERTY 5th HOUSE ON LEFT. FROM DILEY RD. ON WATERLOO

CONSTRUCTION DETAILS

CASING
Casing Diameter 5 in. Length of Casing 99 ft.
Type: ☑ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☑ Threaded ☐ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) SLOT Material STEEL
Length 2 ft. Diameter 5 in.
Set between 95 ft. and 97 ft. Slot 60

GROUT 2 FT. PLUG
Material Volume used
Method of installation
Depth: placed from ft. to ft.
☐ Rotary ☑ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other

BAILING OR PUMPING TEST
(specify one by circling)

WELL TEST
Test rate 20+ gpm Duration of test 1 hrs.
Drawdown (water level during pumping) 12 ft.
Measured from: ☐ top of casing ☑ ground level ☐ Other
Static Level (depth to water) 32 ft. Date: 4/19/90
Quality (clear, cloudy, taste, odor)

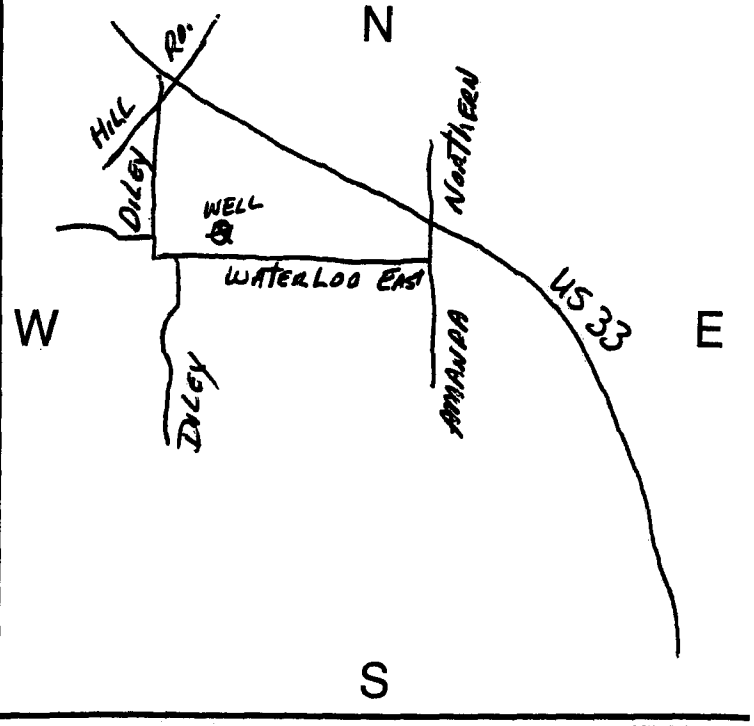
PUMP
Type of pump 1/2 SUB Capacity 11 gpm
Pump set at 80 FT. ft.
Pump installed by ALLIANCE WATER WELL
Pitless Device ☑ Adapter ☐ Preassembled unit
Use of Well PRIVATE

WELL LOG*

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand	From	To
CLAY + GRAVEL	0 ft.	31 ft.
SANDY CLAY	31	64
FINE DIRTY SAND	64	94
WATER SAND + GRAVEL	94	99
WELL FINISHED 97 FT		
FROM TOP OF CASING		
WITH 2 FT. OF PLUG		

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802.88

DRILLING FIRM ALLIANCE WATER WELL, INC.
ADDRESS 6620 Pleasantview Road
CITY, STATE, ZIP Lancaster, Ohio 43130 (614) 569-7560

SIGNED Donald J. Rienschied
DATE April 20
ODH REGISTRATION NUMBER 289

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

283

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's Copy Pink - Driller's Copy Green - Local Health Dept. Copy

WELL LOG AND DRILLING REPORT

(322)

690298

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 198

COUNTY FAIRFIELD TOWNSHIP VIOLET SECTION OF TOWNSHIP 28

OWNER SARAH THOMPSON PROPERTY ADDRESS 9780 WATERLOO EASTERN CANAL-

LOCATION OF PROPERTY 1/4 Mi FROM DILEY Rd. OFF OF 33 ON WATERLOO East. WINCHESTER, OH

CONSTRUCTION DETAILS

CASING
Casing Diameter 5 in. Length of Casing 105 ft.
Type: ☑ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☐ Threaded ☑ Welded ☐ Solvent ☐ Other

SCREEN OPEN END CASING — No SCREEN
Type (wire wrapped, louvered, etc.) Material
Length ft. Diameter in.
Set between ft. and ft. Slot

GROUT
Material Volume used
Method of installation
Depth: placed from ft. to ft.
☐ Rotary ☑ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other

BAILING OR PUMPING TEST
(specify one-by circling)

WELL TEST
Test rate 15 gpm Duration of test 48 hrs.
Drawdown (water level during pumping) 5 ft.
Measured from: ☐ top of casing ☑ ground level ☐ Other
Static Level (depth to water) 35 ft. Date: 8/12/89
Quality (clear, cloudy, taste, odor)

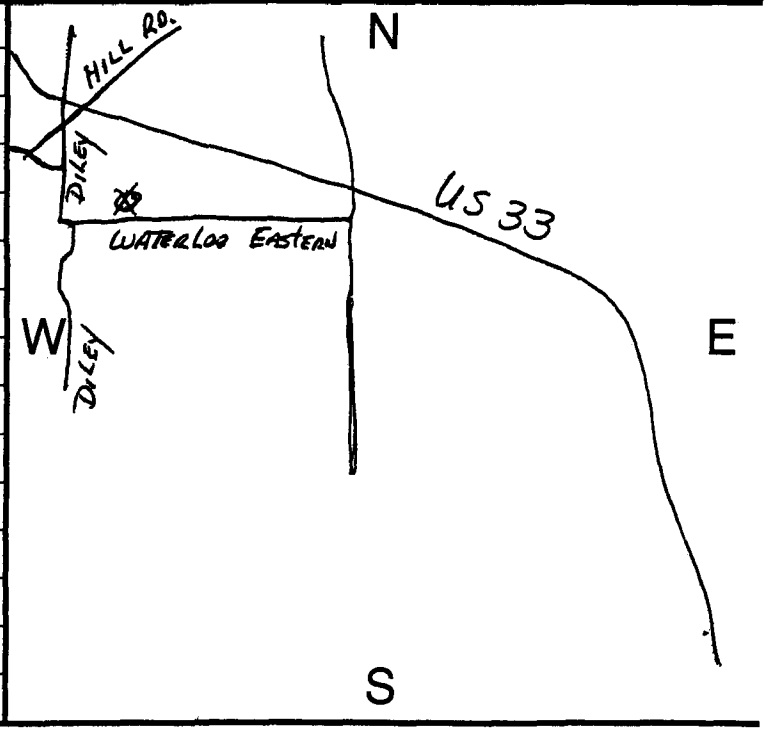
PUMP
Type of pump SUB Capacity 11 gpm
Pump set at 78 ft.
Pump installed by ALLIANCE WATER WELL INC
Pitless Device ☑ Adapter ☐ Preassembled unit
Use of Well PRIVATE

WELL LOG*

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand	From	To
BROWN CLAY & GRAVEL	0 ft.	8 ft.
BROWN SANDY CLAY	8	39
GRAY SANDY CLAY	39	76
SAND & GRAVEL (VERY LITTLE WATER)	76	98
CLAY & GRAVEL (GRAY)	98	103
WATER SAND	103	104
OPEN BOTTOM - SOME FINE SAND PARTICALS		
2.5 IRON		
21 G. HARD		781
		104+
		677-

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802.88

DRILLING FIRM ALLIANCE WATER WELL, INC.
ADDRESS 6620 Pleasantview Road
CITY, STATE, ZIP Lancaster, Ohio 43130
(614) 569-7560

SIGNED Donald G. Rienschild
DATE 8/12/89
ODH REGISTRATION NUMBER 289

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

284

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

WELL LOG AND DRILLING REPORT

701209

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224
(614) 265-6739

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 301 (186)

COUNTY Fairfield TOWNSHIP Violet SECTION/(LOT NO.) 11
(CIRCLE ONE)

(OWNER)/BUILDER (CIRCLE ONE OR BOTH) Samuel O. Bzokaw PROPERTY ADDRESS 9751 Waterloo Eastern Rd.
(ADDRESS OF WELL LOCATION)

LOCATION OF PROPERTY 2 miles south of Rt 33 on south side of Waterloo

CONSTRUCTION DETAILS

CASING
Diameter 5 in. Length 100 ft. Wall Thickness 288 in.
Type: ☒ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☐ Threaded ☒ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) cut Material PVC
Length 15' ft. Diameter 4" in.
Set between 100 ft. and 106 ft. Slot .032
☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other
Date of completion 1-18-90

GROUT
Material slurry Volume used ?
Method of installation driven
Depth: placed from 0 ft. to ? ft.

GRAVEL PACK
Material Volume used
Method of installation
Depth: placed from ft. to ft.

Pitless Device ☒ Adapter ☐ Preassembled unit
Use of Well Domestic

PUMP

Type of pump sub Capacity 10 gpm
Pump set at 30' ft.
Pump installed by PWWS

WELL TEST

Bailing ☒ or Pumping ☒
Test rate 40-15 gpm Duration of test 1-24 hrs.
Drawdown 4'-0 ft.
Measured from: ☒ top of casing ☐ ground level ☐ Other
Static Level (depth to water) 14 ft. Date: 1-18-90
Quality (clear, cloudy, taste, odor) Iron
(Attach a copy of the pumping test record, per 1521.05, ORC)

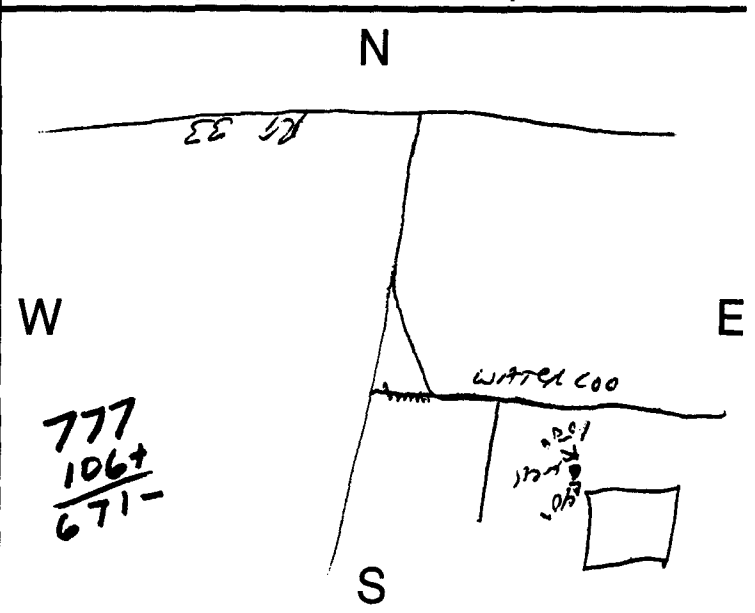
WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.
Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.

	From	To
yellow clay	0 ft.	14 ft.
very fine sand water	14	28
packed grey clayish sand	28	34
very fine sand water	34	80
fine sand	80	88
coarse sand fine gravel	88	100
fine coarse gravel	100	106
med sand	106	?

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form

DNR 7802.88

DRILLING FIRM Professional Water Well Systems SIGNED Susan Wadsworth
ADDRESS 3645 Manila Dr. DATE 1-18-90
CITY, STATE, ZIP Westerville, Ohio 43081 ODH REGISTRATION NUMBER 1668

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

288

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

119943

Permit Number 90-337

COUNTY Garfield TOWNSHIP Violet SECTION/LOT No. 321 (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Roy Kirk PROPERTY ADDRESS 9713 Waterloo Eastern (ADDRESS OF WELL LOCATION A)

LOCATION OF PROPERTY 9713 Waterloo Eastern

CONSTRUCTION DETAILS

CASING Borehole Diameter ____ in.

1 Diameter 5" in. Length 84½ ft. Wall Thickness 188 in.

2 Diameter ____ in. Length ____ ft. Wall Thickness ____ in.

Type: 1 2 Steel; 1 2 Galv.; 1 2 PVC; 1 2 Other ____

Joints: 1 2 Threaded; 1 2 Welded; 1 2 Solvent; 1 2 Other ____

Liner: Length ____ Type ____ Wall Thickness ____ in.

SCREEN

Type (wire wrapped, louvered, etc.) ____ Material ____

Length ____ ft. Diameter ____ in.

Set between ____ ft. and ____ ft. Slot ____

GROUT

Material ____ Volume used ____

Method of installation ____

Depth: placed from ____ ft. to ____ ft.

GRAVEL PACK (Filter Pack)

Material ____ Volume used ____

Method of installation ____

Depth: placed from ____ ft. to ____ ft.

Pitless Device ☐ Adapter ☐ Preassembled unit

Use of Well Home

☐ Rotary ☑ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other ____

Date of Completion ____

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.

From	To	
0	14	Yellow Clay & Gravel
14	30	Blue Clay & sand
30	75	Sand
75	81	Sand & Gravel
81	84	Gravel

WELL TEST

☐ Bailing ☑ Pumping* ☐ Other ____

Test rate 15 gpm Duration of test 1 hrs.

Drawdown -0- ft.

Measured from: ☑ top of casing ☐ ground level ☐ Other ____

Static Level (depth to water) 13 ft. Date: 1-13-91

Quality (clear, cloudy, taste, odor) ____

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

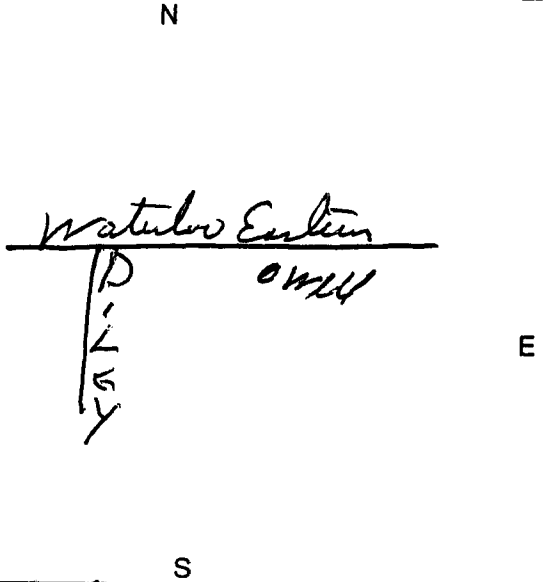
Type of pump ____ Capacity ____ gpm

Pump set at ____ ft.

Pump installed by ____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



*If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802.90

Drilling Firm Short Drilling Signed Karl Short

Address Box 63 Date 1-13-91

City, State, Zip Lithopolis, O 43136 ODH Registration Number 100

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

289

WELL LOG AND DRILLING REPORT

712658

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224
(614) 265-6739

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 90-035

175

COUNTY Fairfield TOWNSHIP Violet SECTION/LOT NO. (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Thomas E Burk PROPERTY ADDRESS 807 Madison Av, (ADDRESS OF WELL LOCATION)

LOCATION OF PROPERTY 9748 Water Too Eastern Rd. Lancaster Ohio

CONSTRUCTION DETAILS

CASING
Diameter 5" in. Length 5/8 ft. Wall Thickness ____ in.
Type: ☑ Steel ☐ Galv. ☐ PVC ☐ Other ____
Joints: ☐ Threaded ☐ Welded ☐ Solvent ☐ Other ____

SCREEN
Type (wire wrapped, louvered, etc.) Pvc Material ____
Length 2 1/2 ft. Diameter ____ in.
Set between ____ ft. and ____ ft. Slot ____
☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other ____
Date of completion May 90

GROUT
Material grout Volume used ____
Method of installation ____
Depth: placed from ____ ft. to ____ ft.

GRAVEL PACK
Material ____ Volume used ____
Method of installation ____
Depth: placed from ____ ft. to ____ ft.

Pitless Device ☑ Adapter ☐ Preassembled unit
Use of Well Home

PUMP

Type of pump 1/2 HP Capacity 10 gpm
Pump set at 55 ft.
Pump installed by Thomas Burk

WELL TEST

Bailing ☑ or 10 Pumping ☐
Test rate ____ gpm Duration of test 4 hrs.
Drawdown 10 ft.
Measured from: ☑ top of casing ☐ ground level ☐ Other ____
Static Level (depth to water) 25 ft. Date: May 90
Quality (clear, cloudy, taste, odor) ____
(Attach a copy of the pumping test record, per 1521.05, ORC)

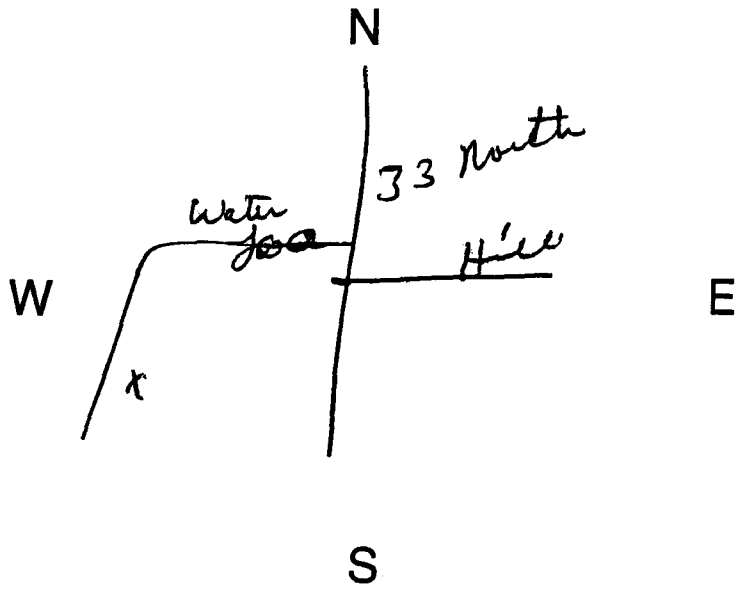
WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Yellow clay	0 ft.	20 ft.
Sand	20	40
Sand + gravel	40	67

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form

DNR 7802.88

DRILLING FIRM Thomas Gobel Well Drlg
ADDRESS 5950 Bunn Rd
CITY, STATE, ZIP Amanda Ohio

SIGNED Thomas Gobel
DATE May 90
ODH REGISTRATION NUMBER 108

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285

701213 187

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224
(614) 265-6739

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 417

COUNTY Fairfield TOWNSHIP Violet SECTION/LOT NO. 9657 (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Ernie Cook ~ Jesse Scoliv PROPERTY ADDRESS 9657 Waterloo Rd (ADDRESS OF WELL LOCATION)

LOCATION OF PROPERTY 1/2 mile S.E. of corner of Dietz & Waterloo on S. side Waterloo

CONSTRUCTION DETAILS

CASING
Diameter 5 in. Length 110 ft. Wall Thickness 24Y in.
Type: ☑ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☐ Threaded ☑ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) Perf Material
Length 2 ft. Diameter 5" in.
Set between 106 ft. and 108 ft. Slot Torch
☐ Rotary ☑ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other
Date of completion 2-25-80

GROUT
Material Slurry Volume used ?
Method of installation Driven
Depth: placed from 0 ft. to 110 ft.

GRAVEL PACK
Material NA Volume used
Method of installation
Depth: placed from ft. to ft.
Pitless Device ☑ Adapter ☐ Preassembled unit
Use of Well Domestic

PUMP

Type of pump SUB Capacity 50 gpm
Pump set at 501 ft.
Pump installed by P.W.W.S.

WELL TEST

Bailing ☐ or Pumping ☑
Test rate 25 gpm Duration of test 4 hrs.
Drawdown 12' ft.
Measured from: ☑ top of casing ☐ ground level ☐ Other
Static Level (depth to water) 17 ft. Date: 2-26-80
Quality (clear) cloudy, taste, odor) Iron
(Attach a copy of the pumping test record, per 1521.05, ORC)

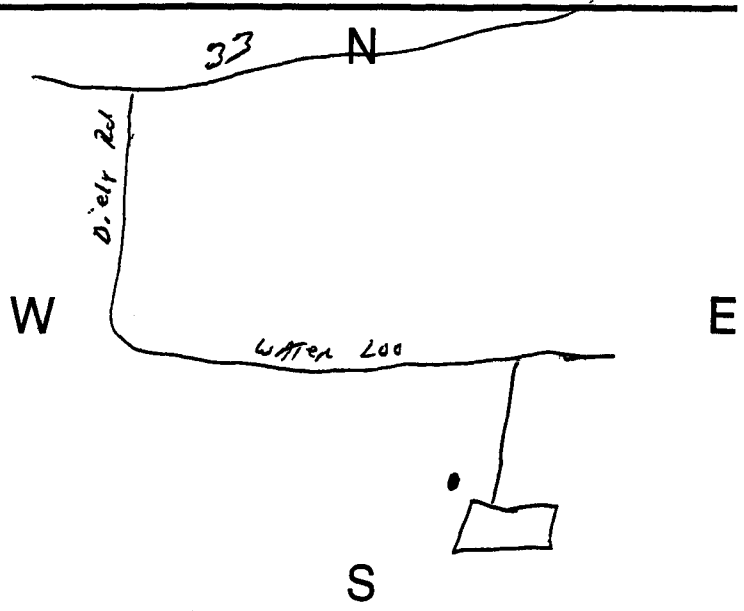
WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Yellow clay	0 ft.	7 ft.
Soft packed yellow sand	7	16
Very fine sand water	16	100
Coarse sand fine gravel	100	106
Fine to coarse gravel	106	110
	776	
	110+	
	666-	

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form

DNR 7802.88

DRILLING FIRM Professional Water Well Systems SIGNED
ADDRESS 3645 Manila dr. E DATE 3-27-8
CITY, STATE, ZIP Westerville, Ohio 43081 ODH REGISTRATION NUMBER 1668

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WELL LOG AND DRILLING REPORT

701215 (188)

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224
(614) 265-6739

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 391

COUNTY Fairfield TOWNSHIP Violet SECTION/LOT NO. 9664 (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) PAUL A. RINE PROPERTY ADDRESS 9664 WATERLOO Rd. (ADDRESS OF WELL LOCATION)

LOCATION OF PROPERTY 1/2 mile S.E. of 33 ON N side OF WATER LOO

CONSTRUCTION DETAILS

CASING
Diameter 5 in. Length 100 ft. Wall Thickness .244 in.
Type: ☒ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☐ Threaded ☒ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) Perf Material Steel
Length 96 3 ft. Diameter 99 5 in.
Set between 96 ft. and 99 ft. Slot TORCH
☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other
Date of completion 3-28-90

GROUT
Material SLURRY Volume used ?
Method of installation DRIVEN
Depth: placed from 0 ft. to 100 ft.

GRAVEL PACK
Material N/A Volume used
Method of installation
Depth: placed from ft. to ft.
Pitless Device ☐ Adapter ☐ Preassembled unit
Use of Well Domestic

PUMP

Type of pump Capacity gpm
Pump set at ft.
Pump installed by

WELL TEST

Bailing ☐ or Pumping ☒
Test rate 30 gpm Duration of test 4 hrs.
Drawdown 25' ft.
Measured from: ☒ top of casing ☐ ground level ☐ Other
Static Level (depth to water) 30 ft. Date: 2-28-90
Quality (clear, cloudy, taste, odor) ± Iron
(Attach a copy of the pumping test record, per 1521.05, ORC)

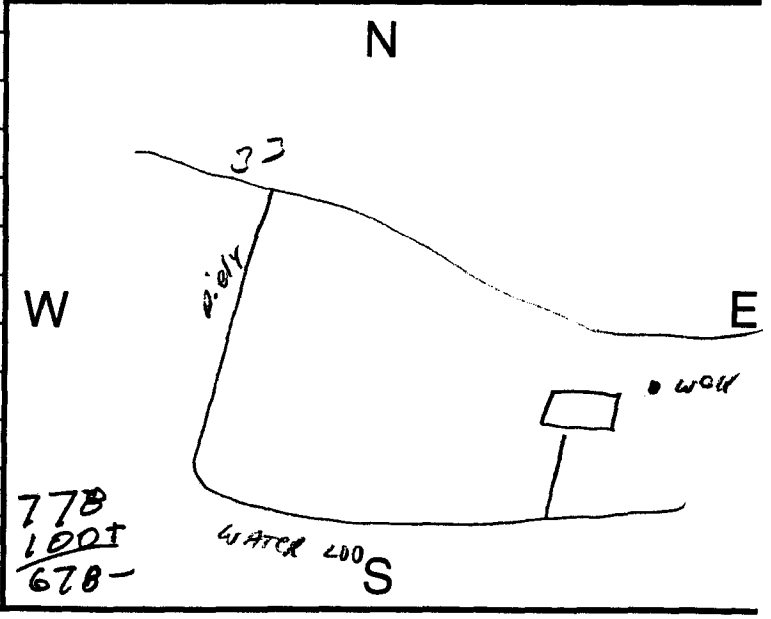
WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
yellow clay	0 ft.	6 ft.
SOFT yellow sand	6	21
GRN clay GRAVEL	21	23
FINE yellow SAND WATER DIRTY	23	37
GRN SILTY SAND	37	44
GRN clay GRAVEL	44	55
GRN clay GRAVEL	55	68
FINE SAND WATER DIRTY	68	72
GRN clay GRAVEL	72	75
FINE SAND WATER	75	80
YELLOW SAND	80	87
COARSE SAND FINE GRAVEL	87	100

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form

DNR 7802.88

DRILLING FIRM PROFESSIONAL WATER WELL SYSTEMS SIGNED Russell Wadsworth
ADDRESS 3645 MANILA DR DATE 3-29-90
CITY, STATE, ZIP WESTERVILLE, OHIO 43081 ODH REGISTRATION NUMBER 1668

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286

WELL LOG AND DRILLING REPORT

680993

(174)

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

Permit Number 93

COUNTY Lanfield TOWNSHIP Violet SECTION OF TOWNSHIP 9625

OWNER Don Williams ADDRESS Canal Winchester O

LOCATION OF PROPERTY Lot # 15 Lily Heights on Waterloo Eastern Rd

CONSTRUCTION DETAILS

Casing diameter 6" O.D. Length of casing 99

Type of screen Wall Length of screen 1

Type of pump Suber

Capacity of pump 10 G.P.M

Depth of pump setting 50

Date of completion 9-2-89

Rotary ☐ or Cable ☑

BAILING OR PUMPING TEST

(specify one by circling)

Test rate 15 gpm Duration of test 1 hr

Drawdown 3 ft Date 9-2-89

Static level (depth to water) 17 ft

Quality (clear, cloudy, taste, odor) 1

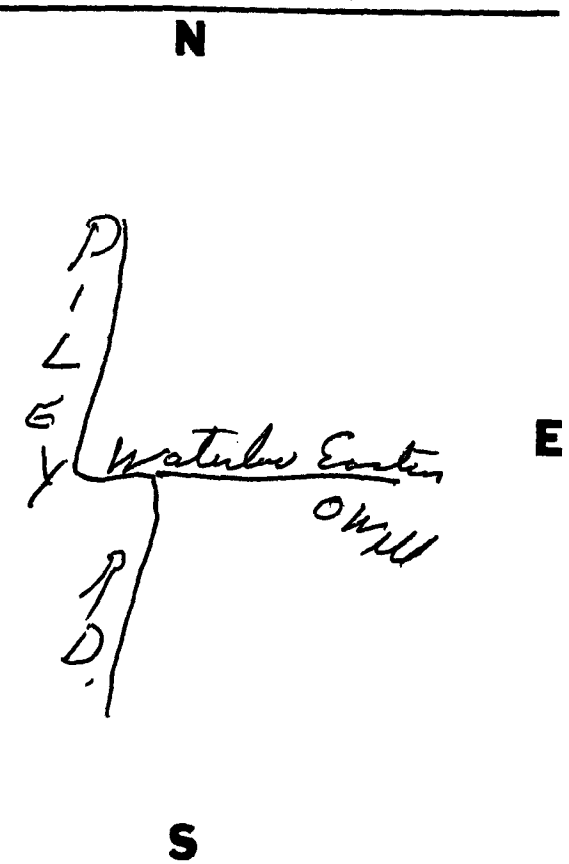
Pump installed by Short Drilling

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Yellow Clay	0 ft	11 ft
Blue Clay	11	55
Sand	55	91
Sand + Gravel	91	99
		770
		99+
		671-

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802

DRILLING FIRM Short Drilling REGISTRATION NUMBER 100 DATE 9-2-89

ADDRESS Lithopolis, O SIGNED Karl Short

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GOLD S-552

291

WELL LOG AND DRILLING REPORT

695256

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224
(614) 265-6739

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number #100 (173)

COUNTY Fairfield TOWNSHIP Violet SECTION/LOT NO (CIRCLE ONE) L

OWNER/BUILDER (CIRCLE ONE OR BOTH) Merlin E. Taylor PROPERTY ADDRESS Lot L Waterloo Eastern Rd. (ADDRESS OF WELL LOCATION)

LOCATION OF PROPERTY Lot L Waterloo Eastern Rd 9622

CONSTRUCTION DETAILS

CASING
Diameter 6 in. Length 103 ft. Wall Thickness 142 in.
Type: ☒ Steel ☒ Galv. ☐ PVC ☐ Other
Joints: ☐ Threaded ☒ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) None Material
Length ft. Diameter in.
Set between ft. and ft. Slot
☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other
Date of completion 5-3-89

GROUT
Material Cement/Slurry Volume used 150 LBS
Method of installation Pour
Depth: placed from Top ft. to Bottom ft.

GRAVEL PACK
Material N/A Volume used
Method of installation
Depth: placed from ft. to ft.
Pitless Device ☐ Adapter ☐ Preassembled unit
Use of Well Residential

PUMP

Type of pump Capacity – gpm
Pump set at OWNER WILL INSTALL ft.
Pump installed by OWN Pump

WELL TEST

Bailing ☒ or Pumping ☐
Test rate 10 gpm Duration of test 2 hrs.
Drawdown 10 FT ft.
Measured from: ☒ top of casing ☐ ground level ☐ Other
Static Level (depth to water) 50 ft. Date: 5-3-89
Quality (clear, cloudy, taste, odor) Cloudy
(Attach a copy of the pumping test record, per 1521.05, ORC)

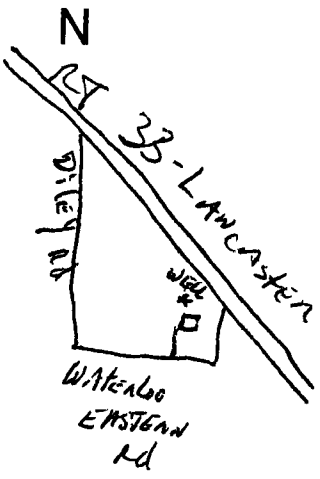
WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Dr'FT	0 ft.	20 ft.
Brown clay w/ gravel	20	40
Hard gray clay w/gravel	40	80
Soft gray clay	80	95
Course Sand w/gravel	95	103
		784
		103±
		681-

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form

DNR 7802.88

DRILLING FIRM AGUA Well Drlg. Inc SIGNED Micah E. Edmonds
ADDRESS 102 Niles Dr DATE 5-8-89
CITY, STATE, ZIP Cols OH 43207 ODH REGISTRATION NUMBER 1643

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WELL LOG AND DRILLING REPORT

705182

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224
(614) 265-6739

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 296

172

COUNTY Fairfield TOWNSHIP Violet SECTION/LOT NO. _____ (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Jasper Wills PROPERTY ADDRESS 9217 Waterloo Eastern (ADDRESS OF WELL LOCATION▲)

LOCATION OF PROPERTY 1 mi. E. of Pleasantville on Waterloo Eastern

CONSTRUCTION DETAILS

CASING
Diameter 6" O.D. in. Length 98 ft. Wall Thickness 142 in.
Type: ☒ Steel ☒ Galv. ☐ PVC ☐ Other _____
Joints: ☒ Threaded ☐ Welded ☐ Solvent ☐ Other _____

SCREEN
Type (wire wrapped, louvered, etc.) _____ Material _____
Length _____ ft. Diameter _____ in.
Set between _____ ft. and _____ ft. Slot _____
☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other _____
Date of completion 2-28-90

GROUT
Material _____ Volume used _____
Method of installation _____
Depth: placed from _____ ft. to _____ ft.

GRAVEL PACK
Material _____ Volume used _____
Method of installation _____
Depth: placed from _____ ft. to _____ ft.
Pitless Device ☒ Adapter ☐ Preassembled unit
Use of Well Home

PUMP

Type of pump Submersible Capacity 10 gpm
Pump set at 80 ft.
Pump installed by Short Drilling

WELL TEST

Bailing ☐ or Pumping ☒
Test rate 15 gpm Duration of test 1 hrs.
Drawdown 3 ft.
Measured from: ☒ top of casing ☐ ground level ☐ Other _____
Static Level (depth to water) 42 ft. Date: 2-28-90
Quality (clear, cloudy, taste, odor) _____
(Attach a copy of the pumping test record, per 1521.05, ORC)

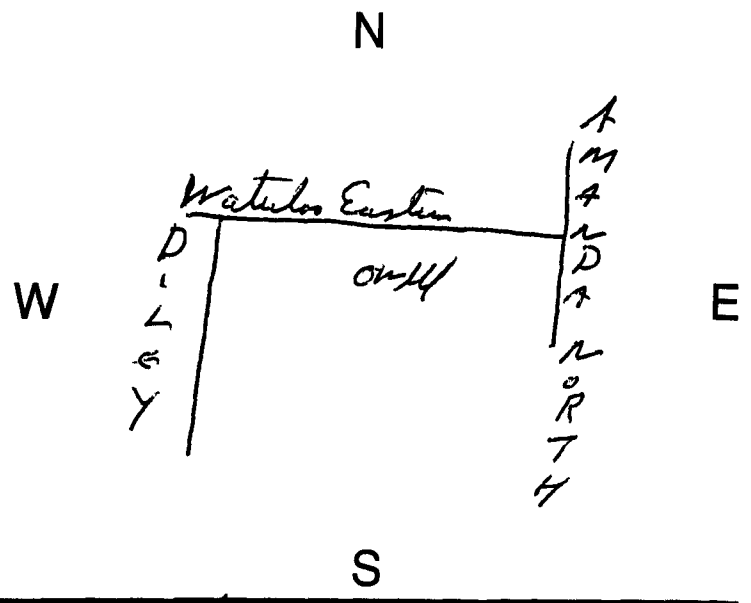
WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Yellow Clay	0 ft.	15 ft.
Blue clay & Gravel	15	62
Gravel & clay	62	66
Blue clay & Gravel	66	82
Sand	82	92
Sand & Gravel	92	97
		780
		97+
		683-

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



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DNR 7802.88

DRILLING FIRM Short Drilling SIGNED Karl Short
ADDRESS Box 65 DATE 2-28-90
CITY, STATE, ZIP Lithopolis, O 43136 ODH REGISTRATION NUMBER 100

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WELL LOG AND DRILLING REPORT

658689

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State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

171

Permit Number 284

COUNTY Fairfield TOWNSHIP Violet SECTION OF TOWNSHIP

OWNER John Campbell ADDRESS 801 Harrison Ave, Lancaster, OH 43130

LOCATION OF PROPERTY 9095 Waterloo Eastern Rd, Canal Winchester, OH 43110

CONSTRUCTION DETAILS

Casing diameter 5" Length of casing 46'

Type of screen — Length of screen —

Type of pump Bar

Capacity of pump

Depth of pump setting

Date of completion

Rotary ☐ or Cable ☑

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 15 gpm Duration of test 12 hrs

Drawdown 0 ft Date 29 Mar 90

Static level (depth to water) 40 ft

Quality (clear, cloudy, taste, odor)

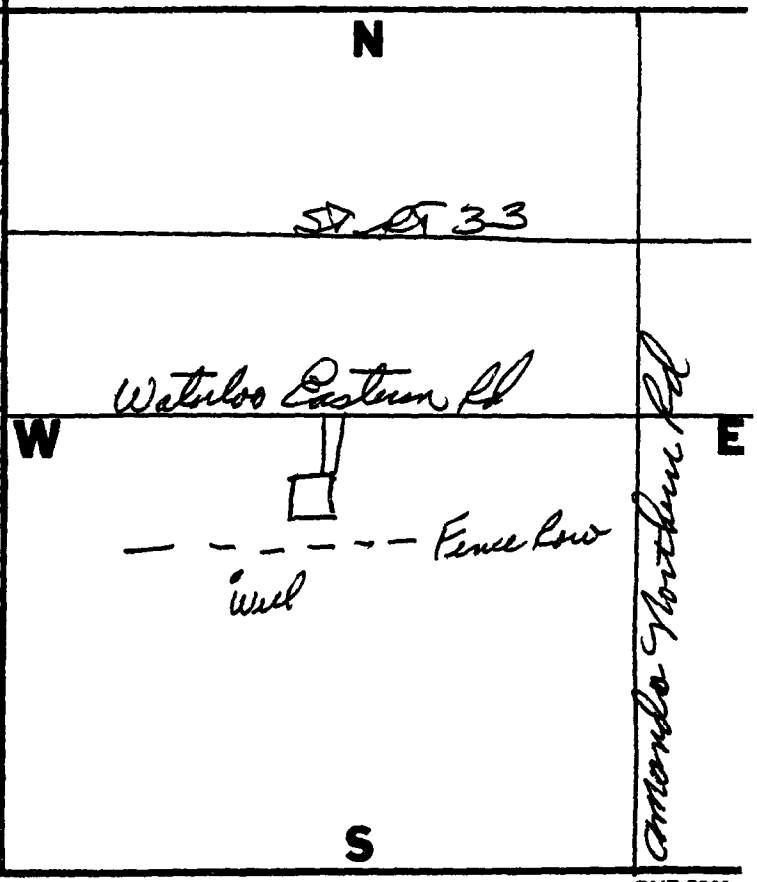
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Topsoil/Clay	0 ft	44 ft
Sand & Gravel	44	46
		795
		46+
		749-

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802

DRILLING FIRM Dick Bauer Drilling REGISTRATION NUMBER 367 DATE 14 Apr 90

ADDRESS 9675 Miller Ave, Canal Winch, SIGNED D Bauer

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GCU S-552

293

REFERENCES

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